

CLAIMS:

1. A method for operating a wireless terminal within a Wireless Local Area Network (WLAN), the method comprising:

listening to a plurality of beacons transmitted by a corresponding plurality of Wireless

5 Access Point (WAPs) of the WLAN;

characterizing the plurality of beacons with regard to signal quality;

based upon the characterization, selecting a desired WAP of the plurality of WAPs;

associating with the desired WAP of the plurality of WAPs; and

adjusting a gain vector of a servicing antenna of the wireless terminal so that it is

10 substantially directed toward the desired WAP of the plurality of WAPs.

2. The method of claim 1, further comprising:

again listening to the plurality of beacons;

again characterizing the plurality of beacons with regard to signal quality;

15 based upon the characterization, selecting a different WAP of the plurality of WAPs;

based upon the characterization, disassociating with the desired WAP of the plurality of WAPs;

associating with the different WAP of the plurality of WAPs; and

adjusting the gain vector of the servicing antenna of the wireless terminal so that it is

20 substantially directed toward the different WAP of the plurality of WAPs.

3. The method of claim 1, wherein the step of listening to the plurality of beacons comprises:

sweeping the gain vector of the servicing antenna;

detecting a beacon; and

5 characterizing the beacon when the gain vector of the servicing antenna is substantially directed toward the beacon.

4. The method of claim 1, wherein characterizing the plurality of beacons with regard to signal quality comprises measuring a signal strength of at least some of the plurality of 10 beacons.

5. The method of claim 1, wherein characterizing the plurality of beacons with regard to signal quality comprises measuring a signal to noise ratio corresponding to at least some of the plurality of beacons.

15 6. The method of claim 1, wherein characterizing the plurality of beacons with regard to signal quality comprises:

receiving loading data carried by at least some of the plurality of beacons; and

processing received loading data to determine the desired WAP of the plurality of WAPs.

7. The method of claim 1, wherein characterizing the plurality of beacons with regard to signal quality comprises:

receiving capability data carried by at least some of the plurality of beacons, wherein the capability data indicates whether a corresponding access point is capable of directional antenna servicing; and

5 processing received capability data to determine the desired WAP of the plurality of WAPs.

8. The method of claim 1, wherein characterizing the plurality of beacons with regard to signal quality comprises:

10 receiving capability data carried by at least some of the plurality of beacons, wherein the capability data indicates whether a corresponding access point is capable of transmit power control; and

15 processing received capability data to determine the desired WAP of the plurality of WAPs.

9. A wireless terminal that operates within a Wireless Local Area Network (WLAN),
the wireless terminal comprising:

a directional antenna;

a radio frequency unit operably coupled to the directional antenna; and

5 a processor operably coupled to the radio frequency unit, wherein the processor operates to execute:

a plurality of instructions that cause the wireless terminal to listen to a plurality of beacons transmitted by a corresponding plurality of Wireless Access Point (WAPs) of the WLAN;

10 a plurality of instructions that cause the wireless terminal to characterize the plurality of beacons with regard to signal quality;

a plurality of instructions that cause the wireless terminal to, based upon the characterization, select a desired WAP of the plurality of WAPs;

15 a plurality of instructions that cause the wireless terminal to associate with the desired WAP of the plurality of WAPs; and

a plurality of instructions that cause the wireless terminal to adjust a gain vector of the directional antenna of the wireless terminal so that it is substantially directed toward the desired WAP of the plurality of WAPs.

10. The wireless terminal of claim 9, wherein the processor further operates to execute:

a plurality of instructions that cause the wireless terminal to again listen to the plurality of beacons;

5 a plurality of instructions that cause the wireless terminal to again characterize the plurality of beacons with regard to signal quality;

a plurality of instructions that cause the wireless terminal to, based upon the characterization, select a different WAP of the plurality of WAPs;

10 a plurality of instructions that cause the wireless terminal to, based upon the characterization, disassociate with the desired WAP of the plurality of WAPs;

a plurality of instructions that cause the wireless terminal to associate with the different WAP of the plurality of WAPs; and

15 a plurality of instructions that cause the wireless terminal to adjust the gain vector of the servicing antenna of the wireless terminal so that it is substantially directed toward the different WAP of the plurality of WAPs.

11. The wireless terminal of claim 9, wherein in executing the plurality of instructions to listen to the plurality of beacons, the wireless terminal:

sweeps the gain vector of the servicing antenna;

20 detects a beacon; and

characterizes the beacon when the gain vector of the servicing antenna is substantially directed toward the beacon.

12. The wireless terminal of claim 9, wherein in executing the plurality of instructions to characterize the plurality of beacons with regard to signal quality, the wireless terminal measures a signal strength of at least some of the plurality of beacons.

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13. The wireless terminal of claim 9, wherein in executing the plurality of instructions to characterize the plurality of beacons with regard to signal quality, the wireless terminal measures a signal to noise ratio corresponding to at least some of the plurality of beacons.

10 14. The wireless terminal of claim 9, wherein in executing the plurality of instructions to characterize the plurality of beacons with regard to signal quality, the wireless terminal: receives loading data carried by at least some of the plurality of beacons; and processes received loading data to determine the desired WAP of the plurality of WAPs.

15 15. The wireless terminal of claim 9, wherein in executing the plurality of instructions to characterize the plurality of beacons with regard to signal quality, the wireless terminal: receives capability data carried by at least some of the plurality of beacons, wherein the capability data indicates whether a corresponding access point is capable of directional antenna servicing; and processes received capability data to determine the desired WAP of the plurality of WAPs.

16. The wireless terminal of claim 9, wherein in executing the plurality of instructions to characterize the plurality of beacons with regard to signal quality, the wireless terminal:

receives capability data carried by at least some of the plurality of beacons, wherein the capability data indicates whether a corresponding access point is capable of transmit power control; and

5 processes received capability data to determine the desired WAP of the plurality of WAPs.

17. The wireless terminal of claim 9, wherein the directional antenna comprises:

10 a single antenna having a plurality of antenna elements; and

a directional antenna controller operably coupled to the single antenna and to the radio frequency unit.

18. The wireless terminal of claim 9, wherein the directional antenna comprises:

15 a plurality of antennas; and

a directional antenna controller operably coupled to the plurality of antennas and to the radio frequency unit.

19. A wireless terminal comprising:

means for listening to a plurality of beacons transmitted by a corresponding plurality of Wireless Access Point (WAPs) of the WLAN;

means for characterizing the plurality of beacons with regard to signal quality;

5 means for based upon the characterization, selecting a desired WAP of the plurality of WAPs;

means for associating with the desired WAP of the plurality of WAPs; and

means for adjusting a gain vector of a servicing antenna of the wireless terminal so that it is substantially directed toward the desired WAP of the plurality of WAPs.

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20. The wireless terminal of claim 19, further comprising:

means for again listening to the plurality of beacons;

means for again characterizing the plurality of beacons with regard to signal quality;

means for based upon the characterization, selecting a different WAP of the plurality of 15 WAPs;

means for based upon the characterization, disassociating with the desired WAP of the plurality of WAPs;

means for associating with the different WAP of the plurality of WAPs; and

means for adjusting the gain vector of the servicing antenna of the wireless terminal so 20 that it is substantially directed toward the different WAP of the plurality of WAPs.

21. The wireless terminal of claim 19, further comprising:
means for sweeping the gain vector of the servicing antenna;
means for detecting a beacon; and
means for characterizing the beacon when the gain vector of the servicing antenna is
substantially directed toward the beacon.

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22. The wireless terminal of claim 19, wherein means for characterizing the plurality
of beacons with regard to signal quality comprise means for measuring a signal strength of at
least some of the plurality of beacons.

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23. The wireless terminal of claim 19, wherein means for characterizing the plurality
of beacons with regard to signal quality comprises means for measuring a signal to noise ratio
corresponding to at least some of the plurality of beacons.

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24. The wireless terminal of claim 19, wherein means for characterizing the plurality
of beacons with regard to signal quality comprises:
means for receiving loading data carried by at least some of the plurality of beacons; and
means for processing received loading data to determine the desired WAP of the plurality
of WAPs.

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25. The wireless terminal of claim 19, wherein means for characterizing the plurality of beacons with regard to signal quality comprises:

means for receiving capability data carried by at least some of the plurality of beacons, wherein the capability data indicates whether a corresponding access point is capable of 5 directional antenna servicing; and

means for processing received capability data to determine the desired WAP of the plurality of WAPs.

26. The wireless terminal of claim 19, wherein means for characterizing the plurality 10 of beacons with regard to signal quality comprises:

means for receiving capability data carried by at least some of the plurality of beacons, wherein the capability data indicates whether a corresponding access point is capable of transmit power control; and

means for processing received capability data to determine the desired WAP of the 15 plurality of WAPs.